

Amendment under 37 CFR §1.111  
Attorney Docket No.: 062844  
Application No.: 10/587,895

### **REMARKS**

Claims 1, 3-8 and 10-17 are pending in the present application. Claims 1, 8 and 13 are herein amended. No new matter has been entered.

### **Claim Objections**

Claim 13 was objected to because the limitation “tungsten, osmium, iridium, and palladium” in line 5 is repeated in line 6. Claim 13 has been amended to remove the repeated line.

Withdrawal of the objection is requested.

### **Claim Rejections - 35 U.S.C. § 112**

Claims 1, 3-8 and 10-17 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Office Action states that the limitation “the channel” in line 4 of claims 1 and 8 lacks an antecedent. Claims 1 and 8 have been amended for clarification.

The Office Action also states that the following limitation at lines 7-8 of claims 1 and 8 is unclear: “or in a spacer via a group of the polymer surface.” Claims 1 and 8 have been for clarification.

Withdrawal of the rejection is requested.

### **Claim Rejections - 35 U.S.C. § 103**

Claims 1-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over **Remy** (US 2005/0170142) in view of **Harston** (WO 99/22857) and in view of **Akiyama, The Polymer Incarcerated Method for the Preparation of Highly Active Heterogeneous Palladium Catalysts**, J. Am. Chem. Soc., vol. 125, No. 12, pp. 3412-13 (2003); and claims 14-17 were rejected under 35

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U.S.C. § 103(a) as being unpatentable over **Remy** in view of **Harston** and in view of **Akiyama**, and further in view of **Kobayashi**, *A Microfluidic Device for Conducting Gas-Liquid-Solid Hydrogenation Reactions*, Science, vol. 304, pp. 1305-1308 (May 28, 2004).

Favorable reconsideration is requested.

#### **A. Perfected Foreign Priority**

Applicants attach a verified translation of the foreign priority document JP 2004-024373 filed January 30, 2004 to perfect foreign priority. The foreign priority document pre-dates the filing of Remy (December 17, 2004). The foreign priority document also pre-dates the publication date of Kobayashi (May 28, 2004). Therefore, the §§ 102 and 103 rejections of claims 1, 3-8 and 10-17 are overcome.

#### **B. The Merits of the Rejection**

Applicants respectfully submit that Remy in view Harston and Akiyama does not teach or suggest “a gas as a gas phase is passed at the center part of the channel” as recited in claim 1 and similarly recited in claim 8.

The Office Action cites Harston for disclosing passing a gas as a gas phase at the center part of the channel. (Office Action, page 5.) However, Harston merely discloses adding reactants through separate inlet ports to a microreactor. Harston is silent about whether the gas passes as a gas phase at the center part of the channel.

Harston discloses the technology regarding the method of conducting chemical reaction using a microreactor. More specifically, Harston discloses using a solid catalyst. (Page 3, line 3 to page 4, line 15.) However, Harston does not disclose that this solid catalyst is a catalyst

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incorporated in a polymer, or that this catalyst is supported on an inner wall of the channel by covalent bonding between the modifying group provided on the inner wall and the polymer.

The Office Action cites Akiyama for disclosing a catalyst that is incorporated in a polymer. (Office Action, page 5.) Akiyama discloses a palladium catalyst incorporated in a polymer. However, Akiyama does not disclose the method to support the palladium catalyst incorporated in a polymer on the inner wall of a microreactor channel.

For at least the foregoing reasons, claims 1, 3-8 and 10-17 are patentable over the cited references. Accordingly, withdrawal of the rejections of claims 1, 3-8 and 10-17 is hereby solicited.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

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If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Attachment: Verified Translation of JP 2004-024373